

## CLAIMS

1. A gas combustion type impact tool comprising:
  - a combustion chamber;
  - a driving cylinder;
  - 5 a driving piston held in the driving cylinder and driven by an exertion of a combustion gas pressure occurring when a gaseous mixture including a combustible gas and air is burnt in the combustion chamber;
  - an injection nozzle formed to face an interior of the
  - 10 combustion chamber and injecting the combustible gas into the combustion chamber;
  - a rotary fan for mixing the combustible gas supplied into the combustion chamber and the air in the combustion chamber;
  - an ignition device provided in the combustion chamber
  - 15 and igniting the gaseous mixture in the combustion chamber;
  - and
  - a vortex generator, provided on an upstream side of the injection nozzle in an air flow generated in the combustion chamber by the rotary fan, for generating a vortex near the
  - 20 injection nozzle in the combustion chamber so as to promote a mixing of the combustible gas and the air.
2. The gas combustion type impact tool according to claim 1, wherein the vortex generator comprises a barrier wall member
- 25 projecting into the combustion chamber.

3. The gas combustion type impact tool according to claim 1, further comprising:

5 a retention generator, provided on a downstream side of the ignition device in the air flow generated in the interior of the combustion chamber by the rotary fan, for easily generating a retention of the gaseous mixture mixed by the rotary fan near the ignition device.

4. The gas combustion type impact tool according to claim 10 3, wherein the retention generator comprises a barrier wall member projecting into the interior of the combustion chamber.

5. The gas combustion type impact tool according to claim 15 3, wherein the vortex generator and the retention generator are structured by a common member.

6. A gas combustion type impact tool, comprising:  
a combustion chamber;  
a driving cylinder;  
20 a driving piston held in the driving cylinder and driven by an exertion of a combustion gas pressure occurring when a gaseous mixture including a combustible gas and air is burnt in the combustion chamber;

an injection nozzle formed to face an interior of the  
25 combustion chamber and injecting the combustible gas into the combustion chamber;

a rotary fan for mixing the combustible gas supplied into the combustion chamber and the air in the combustion chamber;

an ignition device provided in the combustion chamber and igniting the gaseous mixture in the combustion chamber;

5 and

a retention generator, provided on a downstream side of the ignition device in an air flow generated in an interior of the combustion chamber by the rotary fan, for easily generating a retention of the gaseous mixture mixed by the rotary fan  
10 near the ignition device.

7. The gas combustion type impact tool according to claim 6, wherein the retention generator comprises a barrier wall member projecting into the combustion chamber.

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8. The gas combustion type impact tool according to claim 6, further comprising:

a vortex generator, provided on an upstream side of the injection nozzle in the air flow generated in the combustion  
20 chamber by the rotary fan, for generating a vortex near the injection nozzle in the combustion chamber so as to promote a mixing of the combustible gas and the air.

9. The gas combustion type impact tool according to claim  
25 8, wherein the vortex generator comprises a barrier wall member projecting into the combustion chamber.

10. The gas combustion type impact tool according to claim 8, wherein the vortex generator and the retention generator are structured by a common member.

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